



Dart Hawkesbury  
1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada  
Tel (613) 632-5200  
Fax 613 632-5246

# Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Past Days	Total	Supplier Name
PO041674	ACI001-VC	3	1	Net 30	M6061T6B0.375X1.000	6061T6 Bar .375 X 1.00 ; MATERIAL: 6061- T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ- A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ- A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft				20	11/15/2018	20		S127976	Stock	11/13/2018	\$ 1.58 / ft	13	\$31.50	Acier Ouellette Inc.
		4			M6061T6B0.750X06.000	6061T6 Bar .750 X 6.00 ; MATERIAL: 6061- T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ- A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ- A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft				24		24		S127977	Stock	11/13/2018	\$ 20.36 / ft	13	\$488.52	Acier Ouellette Inc.
		5			M6061T6B1.000X1.000	6061T6 Bar 1.000 X 1.000 ; MATERIAL: 6061- T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ- A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ- A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft						24		S127978	Stock	11/13/2018	\$ 4.12 / ft	13	\$98.78	Acier Ouellette Inc.
		6			M6061T6B2.000X01.250	6061T6 Bar 2.00 X 1.25 ; MATERIAL: 6061- T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ- A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ- A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft				36		36		S127979	Stock	11/13/2018	\$ 10.32 / ft	13	\$371.45	Acier Ouellette Inc.

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Past Days	Total	Supplier Name
		7			M6061T6R1.000	Round Bar 1.00" MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft				40		40		S127980	Stock	11/13/2018	\$ 3.02 / ft	13	\$120.60	Acier Ouellette Inc.
		8			M6061T6R1.250	6061-T6 Round Bar 1.250 MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft				20		20		S127981	Stock	11/13/2018	\$ 4.70 / ft	13	\$187.88	Acier Ouellette Inc.
		9			M6061T6R0.500	6061-T6 Round Bar .500" MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft				16		16		S127982	Stock	11/13/2018	\$ 0.81 / ft	13	\$16.17	Acier Ouellette Inc.
		12			M6061T6S.500	6061-T6 0.500 Sheet MATERIAL: 6061-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/11 OR AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209 receive sf				41		41		S127983	Stock	11/13/2018	\$ 29.89 / sf	13	\$478.20	Acier Ouellette Inc.
		13			M304R1.000	304 Round Bar 1.00 MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE receive ft				12		12		S127985	Stock	11/13/2018	\$ 12.65 / ft	13	\$518.83	Acier Ouellette Inc.
		14			M304R0.375	304 Round Bar 0.375 MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE receive ft				12		12		S127986	Stock	11/13/2018	\$ 1.26 / ft	13	\$15.17	Acier Ouellette Inc.

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name
		16			MT-4140QT-R0.875	AISI 4140 Quenched & Tempered Steel Round Bar 0.875" Dia. : AISI 4140 Q&T Round Bar : MAT'L: AISI 4130 QUENCHED & TEMPERED ROUND BAR AS PER ASTM 4140 QT OR ASTM 4142 QT				20		20		S128382	Stock	11/15/2018	\$ 4.21 / ft	11		\$84.23	Acier Ouellette Inc.
		17			MT-4140QT-R4.500	AISI 4140 Quenched & Tempered Steel Round Bar 4.500" Dia. : MATERIAL: AISI 4140 QUENCHED & TEMPERED STEEL ROUND BAR SPECIFICATION: ASTM 4140 QT or ASTM 4142 QT				4		4		S128383	Stock	11/15/2018	\$ 73.85 / ft	11		\$264.37	Acier Ouellette Inc.
		25			M304S11GA	304/316 0.125 Sheet : MATERIAL: AISI 304/316 SS SHEET ANNEALED AS PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240				32		32		S127984	Stock	11/13/2018	\$ 15.54 / sf	13		\$497.20	Acier Ouellette Inc.
<b>Total:</b>										<b>329</b>		<b>329</b>								<b>\$2,403.13</b>	



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER PO041674

**Supplier:** ACI001-VC  
Acier Ouellette Inc.  
935 Boul. Du Havre  
Valleyfield  
QC  
J6S 5L1 Canada  
Phone: 800 667 4248  
Fax: 450 377 5696

**PO No:** PO041674

**PO Date:** 11/9/18

**Due Date:** 11/15/18

**Purchase Order**

**Revision:**

**Revision Date:**

**Ship-To Contact:** Lavoie, Chantal  
Phone: clavoie@dartaero.com

**E-MAILED**  
NOV 09 2018

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**Via:** Ground

**Pymt Terms:** Net 30

**Freight Terms:**

**Special Comments:** extra charge for palette  
quote no: SOU0144781

## Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1		M6061T6B1.250X4.500		6061-T6 Bar 1.25 X 4.50 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	-	11/9/18	12 ft	0 ft	12 ft	\$34.791666/ft	\$417.50
2		M6061T6B1.750X1.750		6061T6 Bar 1.750 X 1.750 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	-	11/15/18	12 ft	0 ft	12 ft	\$14.246666/ft	\$170.96
3 ✓ AT		M6061T6B0.375X1.000		6061T6 Bar .375 X 1.00 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	-	11/15/18	20 ft ✓ 20ft	0 ft	20 ft	\$1.575/ft AT 13/11/14	\$31.50





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Items												
Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
4 ✓ AT		M6061T6B0.750X06.000		6061T6 Bar .750 X 6.00 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	-	11/15/18	24 ft	0 ft	24 ft	\$20.355/ft	\$488.52
								✓ 24ft		AT 18/11/14		
5 ✓ AT		M6061T6B1.000X1.000		6061T6 Bar 1.000 X 1.000 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	-	11/15/18	24 ft	0 ft	24 ft	\$4.1158333/ft	\$98.78
								✓ 24ft		AT 18/11/14		
6 ✓ AT		M6061T6B2.000X01.250		6061-T6 Bar 2.00 X 1.25 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	-	11/15/18	36 ft	0 ft	36 ft	\$10.318/ft	\$371.45
								✓ 36ft		AT 18/11/14		
7 ✓ AT		M6061T6R1.000		Round Bar 1.00" : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft	Firmed	-	11/15/18	40 ft	0 ft	40 ft	\$3.015/ft	\$120.60
								✓ 40ft		AT 18/11/14		
8 ✓ AT		M6061T6R1.250		6061-T6 Round Bar 1.250 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft	Firmed	-	11/15/18	40 ft	0 ft	40 ft	\$4.697/ft	\$187.88
								✓ 40ft		AT 18/11/14		



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# **PURCHASE ORDER** **PO041674**

## **Items**

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
9 ✓ A		M6061T6R0.500		6061-T6 Round Bar .500" : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft	Firmed	-	11/15/18	20 ft	0 ft	20 ft	\$0.8085/ft	\$16.17
								✓ 20 ft			At 18/11/14	
10		M6061T6R1.875		6061-T6 Round Bar 1.875" : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft	Firmed	-	11/15/18	12 ft	0 ft	12 ft	\$18.75/ft	\$225.00
11		M6061T6R2.750		6061-T6 Round Bar 2.750" : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft	Firmed	-	11/15/18	20 ft	0 ft	20 ft	\$18.75/ft	\$375.00
Line Item Note NOTE CUT BAR IN SECTION OF 10 FT												
12 ✓ A		M6061T6S.500		6061-T6 0.500 Sheet : MATERIAL: 6061-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/11 OR AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209 receive sf	Firmed	-	11/15/18	16 sf	0 sf	16 sf	\$29.8875/sf	\$478.20
								✓ 16 sf			At 18/11/14	
Line Item Note 1 PCS 48" X 48"												
13 ✓ A		M304R1.000		304 Round Bar 1.00 : MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	-	11/15/18	36 ft	0 ft	36 ft	\$12.654416/ft	\$455.56
								✓ 41 ft			At 18/11/14	
14 ✓ A		M304R0.375		304 Round Bar 0.375 : MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	-	11/15/18	12 ft	0 ft	12 ft	\$1.2558333/ft	\$15.07
								✓ 12.08 ft			At 18/11/14	



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Hawkesbury, ON  
K6A 1K7  
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# **PURCHASE ORDER** **PO041674**

## **Items**

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
15		MT-4140QT-R0.375		AISI 4140 Quenched & Tempered Steel Round Bar 0.375" Dia. : AISI 4140 Q&T Round Bar : MAT'L: AISI 4130 QUENCHED & TEMPERED ROUND BAR AS PER ASTM 4140 QT OR ASTM 4142 QT	Firmed	-	11/23/18	12 ft	0 ft	12 ft	\$31.96/ft	\$383.52
✓ AK 16		MT-4140QT-R0.875		AISI 4140 Quenched & Tempered Steel Round Bar 0.875" Dia. : AISI 4140 Q&T Round Bar : MAT'L: AISI 4130 QUENCHED & TEMPERED ROUND BAR AS PER ASTM 4140 QT OR ASTM 4142 QT	Firmed	-	11/15/18	20 ft	0 ft	20 ft	\$4.2115/ft	\$84.23
Line Item Note note cut bar in section 10 ft												
✓ AK 17		MT-4140QT-R4.500		AISI 4140 Quenched & Tempered Steel Round Bar 4.500" Dia. : MATERIAL: AISI 4140 QUENCHED & TEMPERED STEEL ROUND BAR SPECIFICATION: ASTM 4140 QT or ASTM 4142 QT	Firmed	-	11/15/18	5 ft	0 ft	5 ft	\$79.466/ft	\$397.33
18		MT-1144-R4.000		AISI 1144 Stressproof Round Bar 4.000" : MATERIAL: AISI 1144 STRESSPROOF STEEL ROUND BAR  ASTM A311 or UNS G11440	Firmed	-	11/23/18	8 ft	0 ft	8 ft	\$98.125/ft	\$785.00
19		MT-1144-R5.000		AISI 1144 Stressproof Round Bar 5.000" : MATERIAL: AISI 1144 STRESSPROOF STEEL ROUND BAR  ASTM A311 or UNS G11440	Firmed	-	11/15/18	4 ft	0 ft	4 ft	\$397.1625/ft	\$1,588.65



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# **PURCHASE ORDER** **PO041674**

## **Items**

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
20		MT-4140-S-2.000X4.000		Steel Plate : MAT'L: AISI 4140 / 4142 STEEL SHEET OR PLATE MINIMUM ROCKWELL C = 28 Rc MAXIMUM ROCKWELL C = 32 Rc ASTM A829, AMS 6395 receive ft	Firmed	-	11/15/18	8 ft	0 ft	8 ft	\$98.125/ft	\$785.00
21		MT-4140-S-1.500X2.000		4140 Steel Bar 1.500 X 2.000 : MAT'L: AISI 4140 / 4142 STEEL SHEET OR PLATE MINIMUM ROCKWELL C = 28 Rc MAXIMUM ROCKWELL C = 32 Rc ASTM A829, AMS 6395 receive ft	Firmed	-	11/15/18	8 ft	0 ft	8 ft	\$48.125/ft	\$385.00
22		MT-A513-T- 5.250W0.375		ASTM A513 Type 5 Alloy Steel Round Tubing 5.250 Dia, 0.375 Wall	Firmed	-	11/15/18	8 ft	0 ft	8 ft	\$103.75/ft	\$830.00
23		MT-O1-B-0.375X0.500		Tool Steel Bar 0.375" X 0.500"	Firmed	-	11/15/18	6 ft	0 ft	6 ft	\$21.08333/ft	\$126.50
24		MT-O1-R0.375		Tool Steel Round Bar 0.375 dia.	Firmed	-	11/15/18	6 ft	0 ft	6 ft	\$4.866666/ft	\$29.20
25		M304S11GA		304/316 0.125 Sheet : MATERIAL: AISI 304/316 SS SHEET ANNEALED AS PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240	Firmed	-	11/15/18	32 sf ✓ 32sf	0 sf	32 sf	\$15.5375/sf	\$497.20 AT 18/11/14
26		MT-4140QT-R9.000		AISI 4140 Q&T Round Bar 9.000" Dia.	Firmed	-	11/15/18	2.25 ft	0 ft	2 ft	\$724.60444/ft	\$1,630.36

Line Item Note 6 pcs of 4.50"

Grand Total: \$10,974.18

## **Order Notes**

Procurement Quality Clauses  
A005 right of entry  
A012 chemical and physical test report  
A016 personnel qualification  
A017 raw material identification (as applicable)  
A026 certification of material conformance  
A041 quality management system  
A042 dart notification by supplier  
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit  
[www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Plex 11/9/18 1:12 PM dart.lavoie.chantal



# ACIER OUELLETTE INC

935, Boul. du Havre  
Salaberry, Québec (Québec)  
Tél.: 514-336-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

## DELIVERY - CLIENT

Copy

CO00120068

### Billed to

DART AEROSPACE LTD  
1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

### Shipped to

1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

Att : LUSSIER Tél.: (613) 632-5200 X 730

Instruction F-M

Delivery Route 5

Customer N°  
Date  
Delivery date  
Your order N°  
Processed by  
Salesman  
Carrier  
Credit Terme

CLI0001056  
2018/11/09  
2018/11/13  
041674  
Josianne Bourdon  
OUELLETTE VALLEYFIELD  
Net 30 Days

Product Description	Weight	Qty	UM	PCS NB			Internal Use Only			
				CMD	EXP	B/O	IN	I	S	C
1 FLAT ALU 3/8 X 1 6061-T6 * FAL-381 1 X 20' HEAT: (SXF180947) M	9.00	20.00	PI_\$CLB		1x20'					
2 FLAT ALU 3/4 X 6 6061-T6 * FAL-346 2 X 12' HEAT: (18033861B) M	126.89	24.00	PI_\$CLB		2x12'		cut 20'	✓		2x8'
3 SQUARE ALU 1 6061-T6 * CAL-1 2 X 12' HEAT: (SXD180929) M	28.22	24.00	PI_\$CLB		1x12'		cut 20'	✓		1x8'
4 FLAT ALU 1 1/4 X 2 6061-T6 * FAL-1142 3 X 12' HEAT: (Z00247133) M	105.84	36.00	PI_\$CLB		3x12'					
5 ROUND ALU 1 6061-T6 * RAL-1 2 X 20' HEAT: (SXE171894) M	37.00	40.00	PI_\$CLB		2x20'					
6 ROUND ALU 1 1/4 6061-T6 * RAL-114 2 X 20' HEAT: (SXF162069) M	57.64	40.00	PI_\$CLB		2x20'					
7 ROUND ALU 1/2 6061-T6 * RAL-12 1 X 20' HEAT: (SXD180879) M	4.62	20.00	PI_\$CLB		1x20'					
8 ALU PLATE 1/2 6061-T651 RANDOM PAL-126061-V 1 PL. 48" X 48" HEAT: (S38015101) M	116.00	16.00	PI2_\$CLB		1x4'x4'		cut 4'x8'			1x4'x4'



# DELIVERY - CLIENT

Copy

CO00120068

Product Description	Qty	Weight	UM	PCS NB			Internal Use Only			
				CMD	EXP	B/O	IN	I	S	C
SAW CUT										
9 ROUND SS 1 304 (R) 5747 RSS-1 3 X 12' R/L HEAT: CH-8421 M	96.12	36.00	PI_\$CLB		2X13'11"					
10 ROUND SS 3/8 304 (R) 5768 RSS-38 1 X 12' R/L HEAT: 43806 M	4.51	12.00	PI_\$CLB		1X13'2"					
11 ROUND 4140 HEAT TREAT 7/8 (R) 4997 R4140-78H 1 X 20' R/L TRANSIT ST-JEROME LE 14/11	40.90	20.00	PI_\$CLB		1X20'					
12 ROUND 4140 ANNEALED 4 1/2 (R) 4957 R4140-412A 1 X 5' DC TRANSIT ST-JEROME LE 14/11	277.95	5.00	PI_\$CLB		1X5'					
13 SHEET SS 11G SS304-2B (4 X 8) 3402 FESS-11G483042B 1 X 4' X 8' HEAT: AIN050390 M	168.00	32.00	PI2_\$CLB		1X4'X8'					
14 PALETTE 7573 PALETTE		1.00	UN_\$UN		1X4'X8'					

Note : ATTENTION: MILL TEST REQUIS

## Conditions :

All sold and delivered materials remain the property of "Acier Ouellette Inc" until payment is made in full, complete and cashed. All lost materials are at the buyer's expense. The warranty offered by "Acier Ouellette Inc." is the same as offered and honored by the manufacturer and his warranty is transferred by "Acier Ouellette Inc." to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with this document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% restocking charge.

Total Weight (Lbs) : 1 072.69

NIR : R-109516-6

Prepared By :	Verified By :	Delivered By :	Date : 18/11/13
Customer's Signature			Date



2613

FAL-38212

52176

TRA 2714



GLOBAL VIETNAM ALUMINIUM COMPANY LIMITED

Address: MY XUAN B1-CONAC INDUSTRIAL ZONE, MY XUAN WARD, PHU MY TOWN,  
BA RIA-VUNG TAU PROVINCE, VIETNAM  
Tel: +84(0)643924954  
Fax: +84(0)643924953

## MILL TEST CERTIFICATE

Date: July 22<sup>nd</sup>, 2018

PO number: P-18239  
Shipping Ref No.: 18-1749  
LC No.: DC HMN812691  
Date of issue: July 18, 2018  
Item Code: 1026800  
Die Number: D00274  
Alloy & Temper: 6061-T6  
Production Description: ALUMINIUM EXTRUDED PROFILES  
Flat Bar .375" x 1" x 240" 6061-T6 D00274  
Length (inch): 240  
Bundle number: P-18239-206  
Heat Number: SXF180947  
Date: 01/07/2018  
Applicable Specifications: ASTM B221 STANDARDS

### CHEMICAL ANALYSIS: %

Si	Mg	Fe	Cu	Mn	Cr	Zn	Ti	Al	Other		Remark:
									EACH	TOTAL	
0.626	0.963	0.240	0.232	0.012	0.058	0.007	0.018	97.745	<0.05	<0.10	28/06/2018

### MECHANICAL ANALYSIS:

Ult. Strength (ksi)	Yield Strength (ksi)	Elongation % LN 2"	Remark:
47.63	45.23	11.8	28/06/2018

All profiles, showing material shipped match aluminium alloy as per standard, with chemical analysis to match aluminium alloy standard.

We hereby certify that the item listed have been checked and tested in accordance with the specifications noted and have been found to meet all the applicable requirements. Certifications are kept on file for 36 months from the date of purchase and are available for review upon request, referring to ASTM and the PO number.

Quality Manager



TRUNG TÂM KIỂM NGHIỆM CÔNG TY  
TNHH NHÓM TOÀN CẦU VIỆT NAM  
GLOBAL VIETNAM ALUMINIUM  
CO., LTD TESTING CENTER

heat: SXF180947

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR

SPECIFICATION:  
 QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)  
 OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)  
 OR ASTM B211 OR ASTM B221

PART NUMBER: M6061T6B | T.TT | X | WW WWW  
 THICK | WIDTH

WHERE "T.TT" = THICKNESS IN INCHES  
 "WW.WWW" = WIDTH IN INCHES

E.G. 1.0" X 12.0" BAR = M6061T6B1.000X12.000

RELEASED  
 2009-05-03  
 JND

B	REMOVE QQ-A-250/11 OPTION, REFORMAT NOTES, ADD ASTM B211/B211 (ZND7-1)	CP	09.07.13
A	NEW ISSUE	DS	01.06.08
REV	DESCRIPTION	BY	DATE
DESIGN	DS		
DRAWN			
CHECKED	DS		
MFG. APPR.	M6061T6B		
APPROVED	TITLE		
DE APPR.	6061-T6 BAR		
DATE	09.07.13		

REV. B  
 DRAWING NO.  
 M6061T6B  
 SHEET 1 OF 1  
 SCALE  
 NTS

DART AEROSPACE LTD  
 HAWKESBURY, ONTARIO, CANADA

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# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M60617630.375x1.000  
 DATE: 18/11/14

PO / BATCH NO.: P0041674/5127976

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 20ft  
 QUANTITY INSPECTED: 20ft  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.375"  
 THICKNESS RECEIVED: 0.375"  
 SHEET SIZE ORDERED: -  
 SHEET SIZE RECEIVED: -

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y N	
CORROSION	Y <input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y N	ASTM B221
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y N	MT: SXF180947
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>At</u> DATE: <u>18/11/14</u>	SIGNED OFF BY: _____ DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

Material Test Report

Manifest: 338375

Ticket:  
5591267

Our Order: 883748 - 10      Cust P.O.: C75638  
Die: ES05873      Part: V836002 ✓  
Alloy Temper: 6061 T6511 ✓      Description: .750 x 6.000  
Print Date: 4/9/18

**Chemical Composition Range**

8178461

6061	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	OtherEach	OtherTotal
Min	0.40		0.15		0.8	0.04				
Max	0.8	0.7	0.40	0.15	1.2	0.35	0.25	0.15	0.05	0.15

**Mechanical Properties**


Strength ksi

Sample ID	Cast #	Lot #	Test Date	Ultimate Tensile	Yield 2% offset	Elongation 2" gage length
78830	<u>18033861B</u>	A11	3/27/18	40.13	37.61	18.0

Applicable Specifications: ASTMB221-14      AMS-QQ-A200/8A

Country of Origin: ONTARIO, CANADA

Can Art Aluminum Extrusion Inc. certifies that materials shipped under this order have been inspected and tested in accordance with Aluminum Association and agreed upon customer specifications. Can Art assumes no liability for additional costs which may be incurred during the customer's manufacture and sale of its products, and is subject only to the replacement of any materials not within agreed upon specifications provided written notification is received by Can Art within 30 days from the date of shipment.

  
Evan Eng, Quality Assurance Manager

Heat: 18033861B

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 6061 T6/T651/T6510/T6511/T62 ALUMINUM BAR

SPECIFICATION:  
 QQ-A-225/B OR AMS-QQ-A-225/B (OR AMS 4117/4128/4115/4116)  
 OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)  
 OR ASTM B211 OR ASTM B221

PART NUMBER: M6061T6B T.TTT X WW.WWW  
 THICK WIDTH  
 WHERE "T.TTT" = THICKNESS IN INCHES  
 "WW.WWW" = WIDTH IN INCHES  
 E.G. 1.0" X 12.0" BAR = M6061T6B1.000X12.000

RELEASED  
 2009-03-03

B	REMOVE QQ-A-200/1 OPTION REFORMAT NOTES ADD ASTM B211/B21 (ZND7-1)	CP	09 07 13
A	NEW ISSUE	DS	01 06 08
REV	DESCRIPTION	BY	DATE
DESIGN	DS		
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	09.07.13		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. M6061T6B	REV. B
TITLE 6061-T6 BAR	SHEET 1 OF 1
SCALE NTS	
COPYRIGHT © 2001 BY DART AEROSPACE LTD	

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061T6B2-750x06.000

PO / BATCH NO.: P0041674/S127977

DATE: 18/11/14

MATERIAL CERT REC'D: Yes

THICKNESS ORDERED: 0.750"

QUANTITY RECEIVED: 2451

THICKNESS RECEIVED: 0.750"

QUANTITY INSPECTED: 2451

SHEET SIZE ORDERED: —

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	ASTM B221
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	LIT: 190 338618
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>At</u>	SIGNED OFF BY: _____		
DATE: <u>18/11/14</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



1781

CAL-1

52177

TRA 2923



GLOBAL VIETNAM ALUMINIUM COMPANY LIMITED

Address: MY XUAN B1-CONAC INDUSTRIAL ZONE, MY XUAN WARD, PHU MY TOWN,  
BA RIA-VUNG TAU PROVINCE, VIETNAM

Tel: +84(0)643924954

Fax: +84(0)643924953

## MILL TEST CERTIFICATE

Date: July 22<sup>th</sup>, 2018

PO number: P-18239

Shipping Ref No.: 18-1749

LC No.: DC HMN812691

Date of issue: July 18, 2018

Item Code: 1042600

Die Number: D00197

Alloy & Temper: 6061-T6

Production Description: ALUMINIUM EXTRUDED PROFILES

Square Bar 1" x 1" x 20' 6061-T6 D00197

Length (inch): 240

Bundle number: P-18239-187

Heat Number: SXD180929

Date: 26/06/2018

Applicable Specifications: ASTM B221 STANDARDS

### CHEMICAL ANALYSIS: %

Si	Mg	Fe	Cu	Mn	Cr	Zn	Ti	Al	Other		Remark:
									EACH	TOTAL	
0.656	0.986	0.218	0.242	0.015	0.056	0.012	0.021	97.684	<0.05	<0.10	23/06/2018

### MECHANICAL ANALYSIS:

Ult. Strength (ksi)	Yield Strength (ksi)	Elongation % LN 2"	Remark:
43.56	39.68	10.6	23/06/2018

All profiles, showing material shipped match aluminium alloy as per standard, with chemical analysis to match aluminium alloy standard.

We hereby certify that the item listed have been checked and tested in accordance with the specifications noted and have been found to meet all the applicable requirements. Certifications are kept on file for 36 months from the date of purchase and are available for review upon request, referring to ASTM and the PO number.

Quality Manager



TRUNG TÂM KIỂM NGHIỆM CÔNG TY  
TNHH NHÔM TOÀN CẦU VIỆT NAM  
GLOBAL VIETNAM ALUMINIUM  
CO., LTD TESTING CENTER

Heat: SXD180929

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL 6061-T6 1651/T6510/T6511/T62 ALUMINUM BAR

SPECIFICATION:  
 QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)  
 OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)  
 OR ASTM B211 OR ASTM B221

PART NUMBER: M6061T6B | T.TTT | X | WW.WWW  
 THICK | WIDTH

WHERE "T.TTT" = THICKNESS IN INCHES  
 "WW.WWW" = WIDTH IN INCHES

E.G. 1.0" X 12.0" BAR = M6061T6B1.000X12.000

**RELEASED**  
 R 2009-05-03  
*And*

B		REMOVE QD-A-250/11 OPTION REFORMAT NOTES, ADD ASTM B211/B.2.1 (Zn D7-1)		CP	08 07 13
A		NEW ISSUE		DS	01 06 09
REV		DESCRIPTION		BY	DATE
DESIGN		DS		DART AEROSPACE LTD	
DRAWN		DS		HAWKESBURY, ONTARIO, CANADA	
CHECKED		AJS		DRAWING NO.	
MFG APPR.		AJS		M6061T6B	
APPROVED		AJS		TITLE	
DE APPR.		AJS		6061-T6 BAR	
DATE		09.07.13		SCALE	
				NTS	

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 ALL RIGHTS RESERVED. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM DART AEROSPACE LTD.

## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061T6B1.000x1.000

PO / BATCH NO.: P0041674/S127978

DATE: 18/11/14

MATERIAL CERT REC'D: Yes

THICKNESS ORDERED: 1.000"

QUANTITY RECEIVED: 244

THICKNESS RECEIVED: 1.000"

QUANTITY INSPECTED: 244

SHEET SIZE ORDERED: —

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<u>N</u>	
CORRECT FINISH	<u>Y</u>	N	
CORROSION	Y	<u>N</u>	
CORRECT GRAIN DIRECTION	<u>Y</u>	N	
CORRECT MATERIAL PER M-DRAWING	<u>Y</u>	N	<u>ASTM B221</u>
CORRECT THICKNESS	<u>Y</u>	N	
PHOTO REQUIRED	Y	<u>N</u>	
CORRECT REF # TO LINK CERT	<u>Y</u>	N	<u>MTSXD180929</u>
CORRECT MATERIAL IDENTIFICATION	<u>Y</u>	N	
CORRECT M# ON THE MATERIAL	<u>Y</u>	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<u>N</u>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<u>N</u>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AK</u> DATE: <u>18/11/14</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



2456

FAL-1142

52197 19909

3

*Best in Class*

## CERTIFIED TEST REPORT

CUSTOMER PO NUMBER: 4500867238-1		CUSTOMER PART NUMBER: 160001442		PRODUCT DESCRIPTION: 1.250 X 2.000 SC RECT BAR	
DER NUMBER: 6048080	LINE ITEM: 001	SHIP DATE: 02/23/2018	ITEM NUMBER: Z00247133	ALLOY: 6061	TEMPER: T6511
WEIGHT SHIPPED: 953.000 LB	QUANTITY: 27.000 PCS	B/L NUMBER: 621920	DIAM/DAF/THKNS:	WIDTH:	LENGTH: 12.000 FT
SHIP TO:			SOLD TO:		

## Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CONDUCT.	BEND
Z00247133	0001	0001	44.1	39.0	16.5	RE 93	N/A	N/A
Z00247133	0001	0002	44.3	39.0	16.1	RE 92	N/A	N/A
Z00247133	0001	0003	44.0	38.7	15.7	RE 92	N/A	N/A
Z00247133	0001	0004	43.9	38.7	17.4	RE 91	N/A	N/A
Z00247133	0001	0005	47.8	43.7	16.4	RE 92	N/A	N/A
Z00247133	0001	0006	47.2	43.0	13.1	RE 92	N/A	N/A

## Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	0.00
108262	.61	.26	.21	.08	.85	.08	.10	.02	.00	.00	.00	.01	.03

## Applicable Requirements:

ASTM-B221-14 STENCILED ASME-SB221 2009 SECT II AMS-QQ-A-200/8A UNS#A96061 (T6511 also conforms to T6-not applicable to other tempers)

## Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA  
 MERCURY IS NOT A NORMAL BACKGROUND ELEMENT IN ALUMINUM ALLOYS; NEITHER MERCURY NOR ANY OF ITS COMPOUNDS ARE UTILITIZED BY ALUMINUM IN THE MANUFACTURE OF THIS MATERIAL.

Heat: Z00247133

Plant Serial: 00323057

Order Number: 6048080

Line Item: 001



*Best in Class*

## CERTIFIED TEST REPORT

### CERTIFICATION

Aluminum Fabricated Products, LLC hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with applicable specifications forming a part of the description set forth in r's sales acknowledgement form. Any warranty is limited to that shown on s general terms and conditions of sale. Test reports are on file, subject to examination.

Aimee L. Macnowski, Quality & Technology Manager

*Aimee L. Macnowski*

Plant Serial: 00323057  
Order Number: 6048080  
Line Item: 001

**CERTIFICATION DU MATÉRIEL**

**CLIENT:**  
**SALABERRY-DE-VALLEYFIELD**

**ACIER OUELLETTE INC DIV.DE**  
  
935 BOUL DU HAVRE  
SALABERRY-DE-VALLEYFIELD, QUEBEC  
QC J6S 5L1

**NUMÉRO DE COMMANDE:** 15032988 000010  
**COMMANDE DU CLIENT:** ac00019909 10  
**NUMÉRO DE PIÈCES:** 2456  
**NUMÉRO DE LIVRAISON:** 803894666 000010

**NUMÉRO D'ARTICLE:** 160001442  
**DESCRIPTION INVENTAIRE:** FLT EXT 6061 T6511 1.25 X 2 X 144

**DESCRIPTION ARTICLE FINIS:** ALUM Barre PLTE EXT 6061 T6511  
1.25po X 2po X 144po

**NUMERO (S) DE COULÉE** **BRAME / BOBINE / TIN (le cas échéant)**  
  
Z00247133 K000768441


**CERTIFICATION**

Un sondage de nos sources matérielles a indiqué que ni le mercure ni des substances radioactives ne sont introduits dans leurs produits ni ne sont utilisés dans aucun de leurs procédés. Alors que nous ne faisons aucun test indépendant pour le mercure ou la radiation, il n'y a rien dans le système qui pourrait entraîner la contamination de l'un ou l'autre type.

Ce document certifie que le matériel décrit ci-dessus a été expédié conformément à votre commande. Le producteur du matériel a certifié qu'il a été produit conformément aux spécifications suivantes:

ASTM B221

09/24/2018

  
Thomas Endres  
Vice-président - Approvisionnement

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL 6061-T6 7651/76510/76511 T62 ALUMINUM ROUND BAR  
 SPECIFICATION: QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)  
 OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4180)  
 OR ASTM B211 OR ASTM B221

PART NUMBER: M6061T6R1D.DDD  
 D/A.

WHERE "D.DDD" = DIAMETER IN INCHES  
 EG. 5/8" ROUND BAR = M6061T6R0.625

RELEASED  
 R 2009-08-08  
 JAP

B	REFORMAT DWD ADD B211 & B221 SPEC (ZIN D8-1)	CP	09 07 13
A	NEW ISSUE	DS	01 08 08
REV	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG APPR			
APPROVED			
DE APPR			
DATE	09.07.13		

DART AEROSPACE LTD		REV. B
HAWKESBURY, ONTARIO, CANADA		SHEET 1 OF 1
DRAWING NO.	M6061T6R	SCALE
TITLE	6061-T6 ROUND BAR	NTS
COPYRIGHT © 2001 BY DART AEROSPACE LTD		

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061-T6 B2-000x01.250

PO / BATCH NO.: P0041674/S127979

DATE: 10/11/14

MATERIAL CERT REC'D: Yes

THICKNESS ORDERED: 1.250"

QUANTITY RECEIVED: 364

THICKNESS RECEIVED: 1.250"

QUANTITY INSPECTED: 364

SHEET SIZE ORDERED: —

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT FINISH	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORROSION	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT GRAIN DIRECTION	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT MATERIAL PER M-DRAWING	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	ASTM B211
CORRECT THICKNESS	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT REF # TO LINK CERT	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	HT: 200247133
CORRECT MATERIAL IDENTIFICATION	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT M# ON THE MATERIAL	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>SVD DAS</u>		SIGNED OFF BY: _____	
DATE: <u>10-11-26</u>		DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

5141



RAL-1

50917 CA-50648  
15420

GLOBAL VIETNAM ALUMINIUM COMPANY LIMITED

Address: MY XUAN B1-CONAC INDUSTRIAL ZONE, MY XUAN TOWN, TAN THANH DISTRICT,  
BA RIA VUNG TAU PROVINCE, VIETNAM

Tel: +84(0)643924954

Fax: +84(0)643924953

**MILL TEST CERTIFICATE**

Date: October 29, 2017

PO number: 17-P-565

Shipping Ref No.: 17-2134

LC No.: DC HMN714345

Date of issue: October 24, 2017

Item Code: 1043003

Die Number: D00004

Alloy &amp; Temper: 6061-T6

Production Description: CUSTOM ALUMINIUM EXTRUSION  
Round Bar 1"x 20' 6061-T6

Length (inch): 240

Unit weight (kg/meter): 1.368

Bundle number: 17-P-565-043, 17-P-565-042, 17-P-565-041, 17-P-565-040

Heat Number: SXE171894

Date: 05/10/2017

Applicable Specifications: ASTM B221 STANDARDS

**CHEMICAL ANALYSIS: %**

Si	Mg	Fe	Cu	Mn	Cr	Zn	Ti	Al	Other		Remark:
									EACH	TOTAL	
0.662	0.964	0.232	0.247	0.024	0.082	0.009	0.019	97.664	<0.05	<0.10	03/10/2017

**MECHANICAL ANALYSIS:**

Ult. Strength (ksi)	Yield Strength (ksi)	Elongation % LN 2"	Remark:
41.7	36.8	12.3	03/10/2017

All profiles, showing material shipped match aluminium alloy as per standard, with chemical analysis to match aluminium alloy standard.

We hereby certify that the item listed have been checked and tested in accordance with the specifications noted and have been found to meet all the applicable requirements. Certifications are kept on file for 36 months from the date of purchase and are available for review upon request, referring to ASTM and the PO number.

Quality Manager



TRUNG TÂM KIỂM NGHIỆM CÔNG TY  
TNHH NHÔM TOÀN CẦU VIỆT NAM  
GLOBAL VIETNAM ALUMINIUM  
CO., LTD TESTING CENTER

Heat: SXE171894



# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL/ 6061-T6 T651/T6510/T6511/T62 ALUMINUM ROUND BAR  
SPECIFICATION: QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)  
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)  
OR ASTM B211 OR ASTM B221

PART NUMBER: M6061T6R0 DDD | D/A.  
WHERE "D.DDD" = DIAMETER IN INCHES  
EG. 5/8" ROUND BAR = M6061T6R0.625

RELEASED  
R 2009-09-09  
ND

B	REFORMAT DWG. ADD 8211& B221 SPEC (ZN D6-1)	CP	09.07.13
A	NEW ISSUE	DS	01.06.08
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG APPR			
APPROVED			
DE APPR			
DATE	09.07.13		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M6061T6R			
TITLE 6061-T6 ROUND BAR			
SHEET 1 OF 1			
SCALE NTS			
DATE 09.07.13			
COPYRIGHT © 2001 DART AEROSPACE LTD			

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061 T6 R1.000  
 DATE: 18/11/15

PO / BATCH NO.: P0041674/S127180

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 40.0t  
 QUANTITY INSPECTED: 40.0t  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.00"  
 THICKNESS RECEIVED: 1.00"  
 SHEET SIZE ORDERED: —  
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	ASTM B221
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	(Y)	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	HT S&E 171894
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u>	SIGNED OFF BY: _____
DATE: <u>18/11/15</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



GLOBAL VIETNAM ALUMINIUM COMPANY LIMITED

Address: My Xuan BI-Conac industrial zone, My Xuan town, Tan Thanh district,  
Ba Ria-Vung Tau province, Viet Nam  
Tel: +84(0)643924954  
Fax: +84(0)643924953

## MILL TEST CERTIFICATE

Date: January 19, 2017

PO number: 16-P-421  
Customer PO: Inventory  
Shipping Ref No: 17-0046  
LC No.: DC HMN710232  
Date of issue: January 18, 2017  
Item Code: 1043103  
Die Number: D00005  
Alloy & Temper: 6061-T6  
Production Description: Round Bar 1.25"x 20' 6061-T6 D00005  
Length (inch): 240  
Bundle number: 16-P-421-090, 16-P-421-091, 16-P-421-092, 16-P-421-093, 16-P-421-094  
Heat Number: SXF162069  
Date: 10/01/2017  
Applicable Specifications: ASTM B221 STANDARDS

### CHEMICAL ANALYSIS: %

Si	Mg	Fe	Cu	Mn	Cr	Zn	Ti	Al	Other		Remark:
									EACH	TOTAL	
0.637	0.921	0.330	0.243	0.022	0.087	0.012	0.019	98.737	<0.05	<0.10	07/01/2017

### MECHANICAL ANALYSIS:

Ult. Strength (ksi)	Yield Strength (ksi)	Elongation % LN 2"	Remark:
39.1	36.2	10.8	07/01/2017

All profiles, each profile with each MTC, showing material shipped match aluminum alloy as per standard, with chemical analysis and mechanical analysis to match aluminium alloy standard.

We hereby certify that the item listed have been checked and tested in accordance with the specifications noted and have been found to meet all the applicable requirements. Certifications are kept on file for 36 months from the date of purchase and are available for review upon request, referring to ASTM and the PO number.

Quality Manager

heat: SXF162069



# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL 6061-T6 T651/T6510/T6511/T62 ALUMINUM ROUND BAR  
SPECIFICATION: QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)  
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)  
OR ASTM B211 OR ASTM B221

PART NUMBER: M6061T6R[D,DDD]  
DIA.  
WHERE "D,DDD" = DIAMETER IN INCHES  
EG. 5/8" ROUND BAR = M6061T6R0.625

RELEASED  
R 2009-09-09  
ND

REV	REFORMAT JWG ADD B211& B221 SPEC (ZN DB-1) REF PAR 08.00A	CP	09.07.13
A	NEW ISSUE	DS	01.06.08
REV	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG APPR			
APPROVED			
DE APPR			
DATE	09.07.13		
DART AEROSPACE LTD HAWKESBURY, ONTARIO CANADA		REV. B	
DRAWING NO. M6061T6R		SHEET 1 OF 1	
TITLE 6061-T6 ROUND BAR		SCALE NTP	
COPYRIGHT © DART AEROSPACE LTD ALL RIGHTS RESERVED			

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061T6R1.250  
 DATE: 18/11/15

PO / BATCH NO.: P0041674/5127981

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 40ft  
 QUANTITY INSPECTED: 40ft  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.250"  
 THICKNESS RECEIVED: 1.250"  
 SHEET SIZE ORDERED: -  
 SHEET SIZE RECEIVED: -

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/>	
CORRECT FINISH	Y <input checked="" type="checkbox"/>	
CORROSION	Y <input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	Y <input checked="" type="checkbox"/>	
CORRECT MATERIAL PER M-DRAWING	Y <input checked="" type="checkbox"/>	ASTM B211
CORRECT THICKNESS	Y <input checked="" type="checkbox"/>	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	Y <input checked="" type="checkbox"/>	LT: 8XF162069
CORRECT MATERIAL IDENTIFICATION	Y <input checked="" type="checkbox"/>	
CORRECT M# ON THE MATERIAL	Y <input checked="" type="checkbox"/>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u>	SIGNED OFF BY: _____
DATE: <u>18/11/15</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

5127

RAL-12

00V-51507

20035

52385



GLOBAL VIETNAM ALUMINIUM COMPANY LIMITED

Address: MY XUAN BI-CONAC INDUSTRIAL ZONE, MY XUAN WARD, PHU MY TOWN,  
BA RIA-VUNG TAU PROVINCE, VIETNAM

Tel: +84(0)643924954

Fax: +84(0)643924953

**MILL TEST CERTIFICATE**Date: July 30<sup>th</sup>, 2018

PO number: 18-P-201M-2

Shipping Ref No.: 18-1785

LC No.: DC HMN812752

Date of issue: July 23, 2018

Item Code: EX130014

Die Number: D00324

Alloy &amp; Temper: 6061-T6

Production Description: ALUMINIUM EXTRUDED PROFILES

ROD 0.5 240" 6061-T6

Length (inch): 240

Bundle number: 18-P-201M-2-042, 18-P-201M-2-028

Heat Number: SxD180879

Date: 30/06/2018

Applicable Specifications: ASTM B221 STANDARDS

**CHEMICAL ANALYSIS: %**

Si	Mg	Fe	Cu	Mn	Cr	Zn	Ti	Al	Other		Remark:
									EACH	TOTAL	
0.624	0.981	0.230	0.245	0.011	0.072	0.084	0.016	97.636	<0.05	<0.10	27/06/2018

**MECHANICAL ANALYSIS:**

Ult. Strength (ksi)	Yield Strength (ksi)	Elongation % LN 2"	Remark:
41.32	38.56	11.6	27/06/2018

All profiles, showing material shipped match aluminium alloy as per standard, with chemical analysis to match aluminium alloy standard.

We hereby certify that the item listed have been checked and tested in accordance with the specifications noted and have been found to meet all the applicable requirements. Certifications are kept on file for 36 months from the date of purchase and are available for review upon request, referring to ASTM and the PO number.

Quality Manager



TRUNG TAM KIEM NGHIEM CONG TY  
TNHH NHOM TOAN CAU VIETNAM  
GLOBAL VIETNAM ALUMINIUM  
CO., LTD TESTING CENTER

heat: SxD180879

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL 6061-T6 6061-T6/6061-T6510/T6511/T652 ALUMINUM ROUND BAR  
 SPECIFICATION: QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)  
 OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)  
 OR ASTM B211 OR ASTM B221

PART NUMBER: M6061T6R[D.000]  
 WHERE "D.000" = DIAMETER IN INCHES  
 EG. 5/8" ROUND BAR = M6061T6R0.625

RELEASED  
 R 2009-09-09  
 NP

B	REFORMAT DATE ADD B211 & B221 SPEC (ZN D6-1)	CP	09.07.13
A	NEW ISSUE	DS	01.06.00
REV	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG APPR			
APPROVED			
DE APPR			
DATE	09.07.13		

DART AEROSPACE LTD		REV. B
HAWKESBURY, ONTARIO, CANADA		SHEET 1 OF 1
DRAWING NO.	M6061T6R	SCALE
TITLE	6061-T6 ROUND BAR	NTG
COPYRIGHT © 2001 BY DART AEROSPACE LTD		



## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061 T6 RD. 500  
 DATE: 10/11/15

PO / BATCH NO.: 02041674/5127982

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 204  
 QUANTITY INSPECTED: 204  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.500"  
 THICKNESS RECEIVED: 0.500"  
 SHEET SIZE ORDERED: -  
 SHEET SIZE RECEIVED: -

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y N	
CORROSION	Y <input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y N	ASTM B221
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y N	MT. SXD 180079
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u> DATE: <u>10/11/15</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

PAL-12486061

TRA 2485

51722

MILL TEST CERTIFICATE	No: 0401 Date: 3/19/2018	CERTIFIED SRAC-IQNet ISO 9001/2015 No.10/valid 2020	<b>vimetco</b> alro SLATINA
--------------------------	-----------------------------	--	-----------------------------------

CONTRACT/ORDER : 2231  
BILL OF DELIVERY : 80354833  
TRUCK/CONTAINER : TTNU 4403450

MATERIAL : ALUMINIUM PLATES  
ALLOY : 8081  
LOT/DIMENSIONS (mm): 70191778 . . . 0.5"THX48.6"WDX144.6"LT

TEMPER: T651

ACCORDING TO : ASTM B209; AMS 4027N; ANSI H35.2; ASME SB209; AMS-QQ-A-250/11

ACTUAL MECHANICAL PROPERTIES													1 MPa = 1 N/mm2 = 0.145 ksi = 0.102 kgf/mm2	
1 lbs = 0.4536 kg						UTS KSI		YTS KSI		Elong.% 50mm				
						min. max.		min. max.		min.				
Specified values:						42		35		9				
LOT / BATCH		CASE		NET WEIGHT lbs		Measured values:								
70191778 S38015101		608481;608487		4,838.630		46 46		39.4 39		19.5 20.5				
ACTUAL CHEMICAL ANALYSIS %														
BATCH		Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Ga	V	Al	
S38015101		0.7	0.67	0.26	0.14	1.02	0.16	0.016	0.13	0.02	0.012	0.016	REM. REM REM	
Acc. Standard	Min.	0.4		0.15		0.8	0.04						REM.	
	Max.	0.8	0.7	0.4	0.16	1.2	0.35	0.05	0.25	0.15	0.05	0.05		
Remarks:						Other- Each- Max.: 0.05				OthersTotal- Max.: 0.15				

## REMARKS:

ACCORDING TO: ASTM B209:2014; AMS 4027N:2008; ANSI H35.2:2017; ASME SB209:2016; AMS-QQ-A-250/11:1997  
We hereby certify that the material detailed hereon has been produced and tested according to the requirements of the relevant standards, specification and/or order. Keep in dry conditions, without large temperatures variations. The differences between metal and air must not exceed 11 °C. Please follow the recommendations of the Aluminum Association Guide for minimizing water staining, latest edition, for the unloading and storage of the material in your premises before usage. Also we certify that ALRO products complies with REACH legislation no. 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals and CLP legislation no. 1272/2008 on classification, labeling and packaging of substances and mixtures.

According to EN 10204:2004 3.1

## QUALITY CONTROL DEPT.

Marcel Oleanu, Eng.  
SC ALRO SA SLATINA  
Punct de lucru Slatina  
Str. Milcov Nr.1, Jud. Galati  
Serv. Inspecția Calității

ALRO S.A. No.116, Pitesti Street Phone: (+40) 0249 435 117; 0249 433 888 alro@alro.ro  
230048-Slatina-ROMANIA Fax: (+40) 0249 411 497; 0249 416 992 www.alro.ro

cod f1/PO-051/Rev.4/2012

heat: S38015101

# SPECIFICATION CONTROL DRAWING

△ PURCHASE MATERIAL: 6061-T62T651 ALUMINUM SHEET OR PLATE

SPECIFICATION:  
QQ-A-250/11 OR AMS-QQ-A-250/11  
OR AMS-4925 OR 4027  
OR ASTM B209

△ PART NUMBER: M6061T6S|XXX|X|W.WWW|  
THK|WIDTH|

WHERE "XXX" = THICKNESS (IN INCHES)  
AND "W.WWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE)

EG. 0.063" THICK SHEET = M6061T6S.063  
EG. 3.5" WIDE BY 0.500" THICK PLATE = M6061T6S.500X3.500

△ PREFERRED SIZE: XXX BY 4FT BY 8FT FOR SHEET

C	ADD PLATE AND T651 SPEC	ML	17.12.13
B	REFORMAT QWQ, ADD B209 SPEC (ZN D8-1), REF PAR 08-020A	CP	09.07.13
A	NEW ISSUE	RF	01.06.08
REV	DESCRIPTION	BY	DATE
DESIGN	DS	ML	DATE
DRAWN	ML	NO	DATE
CHECKED	NO	JFS	DATE
MFG. APPR.	HS	CP	DATE
APPROVED	CP	CP	DATE
DE APPR.	CP	CP	DATE
DATE	17.12.13	CP	DATE

**DART AEROSPACE LTD**  
HAYKESBURY, ONTARIO, CANADA  
DRAWING NO. M6061T6S  
SHEET 1 OF 1  
REV. C  
SCALE  
6061-T6 SHEET/PLATE SPEC  
NTS  
COPYRIGHT © 2001 BY DART AEROSPACE LTD

APPROVED  
2018 MAR 13  
2018 MAR 13  
2018 MAR 13



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061 T6S. 500  
 DATE: 10/11/15

PO / BATCH NO.: P0041674/5127983

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 165F  
 QUANTITY INSPECTED: 165F  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.500"  
 THICKNESS RECEIVED: 0.500"  
 SHEET SIZE ORDERED: 4ft x 4ft  
 SHEET SIZE RECEIVED: 4ft x 4ft

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<u>(N)</u>	
CORRECT FINISH	<u>(Y)</u>	N	
CORROSION	Y	<u>(N)</u>	
CORRECT GRAIN DIRECTION	<u>(Y)</u>	N	
CORRECT MATERIAL PER M-DRAWING	<u>(Y)</u>	N	<u>ASTM B209</u>
CORRECT THICKNESS	<u>(Y)</u>	N	
PHOTO REQUIRED	Y	<u>(N)</u>	
CORRECT REF # TO LINK CERT	<u>(Y)</u>	N	<u>HT: 538015101</u>
CORRECT MATERIAL IDENTIFICATION	<u>(Y)</u>	N	
CORRECT M# ON THE MATERIAL	<u>(Y)</u>	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<u>(N)</u>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<u>(N)</u>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u>	SIGNED OFF BY: _____	
DATE: <u>10/11/15</u>	DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



5747

RSS-1

19493



# CHANDAN STEEL LIMITED

(GOVT. OF INDIA RECOGNISED EXPORT HOUSE)

ISO 9001:2015 CERTIFICATE No. 0418010002

ADM. OFFICE: 101, SURAJ SAGAR, H.S. ROAD, VADODRA, GUJARAT-390002, INDIA

Tel: 91-22-6630480. Fax: 91-22-6630434

Website: www.chandansteel.net

Email: info@chandansteel.net

I/c. No.:

I/c. Date:

WORKS PLOT NO. 31 TO 34, AS, AS, &amp; 492, 142

(EXP. AREA) GIDC, UMBERGAON &amp; SURVEY NO. 1072 &amp; 1, VILLAGE,

DEHARI, TALUKA/UMBERGAON, DISTRIKALAD, GUJARAT-396171

GSTIN-24AAACC071571ZG

52039

F860(824) QC 09/00/11.01.2018

## MILL TEST / INSPECTION CERTIFICATE 3.1 ACCORDING TO EN 10204 : 2005

<b>PRODUCT DESCRIPTION</b> <b>STAINLESS STEEL ROUND BARS</b>					<b>Test Certificate No. :</b> EXP/00313-07/2018-2019						
					<b>Date of Issue :</b> 30.06.2018						
					<b>P. O. No. :</b> MN6118						
					<b>SC. No. &amp; Date :</b> 18-19/0047, Dt. 04.03.2018						
					<b>Invoice No. &amp; Date :</b> EXP/00313/2018-19 Dt. 30.06.2018						
					<b>LENGTH</b>		<b>Net Wt.</b>  7984 Lbs.				
					<b>Ordered</b>	<b>Actual</b>					
					<b>12' - 14'</b>	<b>12' - 14'</b>					
<b>Heat No.</b>	<b>Grade AISI</b>	<b>Size mm/inches</b>	<b>Tolerance</b>	<b>Process Route</b>							
<b>CH-8421</b>	<b>304L</b>	<b>1"</b>	<b>h9</b>	<b>Electric Melting, A.O.D. Refining, Continuous Casting</b>							
<b>CHEMICAL COMPOSITION (Weight %)</b>											
	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Ti	N
Min.	-	-	-	-	-	18.00	-	8.00	-	-	-
Max.	0.030	1.00	2.00	0.045	0.030	20.00	-	12.00	-	-	-
Results	0.027	0.40	1.64	0.042	0.021	18.14	-	8.01	-	-	-
<b>MECHANICAL PROPERTIES</b>											
Specified Value	Yield Strength N/mm <sup>2</sup> /MPa (Rp0.2)		Tensile Strength N/mm <sup>2</sup> /MPa (Rm)		Elongation %		Reduction of Area %		Hardness (HB)		
Min.	170		485		30		40		-		
Max.	-		-		-		-		-		
Results	322		642		44		67		202-205		
<b>Remarks:</b>											
1. Cold drawn & Centreless Ground.											
2. Solution annealed at 1050 °C.											
3. PMI test done 100% & found Satisfactory.											
4. Material is free from radio-active contamination.											
5. Inter-Granular Corrosion Test as per ASTM A262 - 15 (Pr.E) satisfactory.											
6. The material hardness is in Accordance with NACE MR 0175/ISO 15156-1:2015 and NACE MR 0103-2007.											
7. The material conforms to ASTM A276/A276M-17, A182/A182M-17, A479/A479M-17 & ASME SA 479/SA479 M- 2015 Specifications.											
8. Location of sample - Off Centre, Direction - Longitudinal, Test Temp - Room Temp., Shape of Test Piece - Round.											
9. Marking details - Company Logo, Size, Grade & Heat No.											
10. The material is manufactured/melt in Chandan Steel Mill and is of Indian Origin.											
11. No welding/weld repairs was performed on this material.											
<b>BUNDLE NO.:</b> 11 to 13, 29 to 31											



It is hereby certified that the above results are true and correct in every details and are meeting the requirements of specification & purchase order.

B. S. RAUTELA  
MANAGER - QUALITY ASSURANCE

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS ROUND BAR  
(NOTE: AISI 303 NOT ACCEPTABLE)

B SPECIFICATION:

ASTM A276

PART NUMBER:

M304R[D.D.D.]  
DIA.

WHERE "D.D.D." = DIAMETER IN INCHES  
EG. 0.75" ROUND BAR = M304R0.750

RELEASED  
CT 12/25/14

B	REFORMAT DWG. ADD SPECS (ZIN D6 1)	OP	09.07.15
A	NEW ISSUE	AJS	08.03.03
REV	DESCRIPTION	BY	DATE
DESIGN	ASS		
DRAWN	QA		
CHECKED	SS		
MFG. APPR.	M304R		
APPROVED	DATE		
DE APPR.	DATE		
DATE	09.07.15		

DART AEROSPACE LTD  
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. M304R

TITLE 304/316 ROUND BAR

REV. B

SHEET 1 OF 1

SCALE NTS

COPYRIGHT © 2008 BY DART AEROSPACE LTD

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304R1.000  
 DATE: 18/11/15

PO / BATCH NO.: P0041674/S127985

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 4124  
 QUANTITY INSPECTED: 4124  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.000"  
 THICKNESS RECEIVED: 1.000"  
 SHEET SIZE ORDERED: —  
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<u>(N)</u>	
CORRECT FINISH	<u>(Y)</u>	N	
CORROSION	Y	<u>(N)</u>	
CORRECT GRAIN DIRECTION	<u>(Y)</u>	N	
CORRECT MATERIAL PER M-DRAWING	<u>(Y)</u>	N	<u>ASTM A276</u>
CORRECT THICKNESS	<u>(Y)</u>	<u>(N)</u>	
PHOTO REQUIRED	Y	<u>(N)</u>	
CORRECT REF # TO LINK CERT	<u>(Y)</u>	N	<u>HT: CH-8421</u>
CORRECT MATERIAL IDENTIFICATION	<u>(Y)</u>	N	
CORRECT M# ON THE MATERIAL	<u>(Y)</u>	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<u>(N)</u>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<u>(N)</u>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>At</u> DATE: <u>18/11/15</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



5768

RSS-38

Fidelity C11259

51864

**VIRAJ PROFILES LIMITED****VIRAJ**

Works: SURVEY NO.- 25/1, 25/2, 26 & 34, Village- MAAN, Taluka- PALGHAR, Dist.- THANE, MAHARASHTRA -401 506, INDIA,  
e-mail- vielqc@viraj.com

18931

**TEST CERTIFICATE**

<b>ORDER NO</b>	<b>PACKING LIST NO</b>	<b>INSPECTION NO</b>	<b>DATE</b>
	64/1015893/37	100007558464	08.12.2016
		<b>GRADE</b>	<b>HEAT No</b>
		304/304L ✓	43806 ✓

**BUNDLE NO :**  
1100619278, 1100619277, 1100619276, 1100619275, 1100619274,

**DESCRIPTION**

STAINLESS STEEL BRIGHT BARS

**COLD DRAWN POLISHED - 2H**

<b>SIZE</b>	<b>SHAPE</b>	<b>TOLERANCE</b>	<b>LENGTH</b>	<b>PIECES</b>	<b>WEIGHT</b>
3/8" ✓	ROUND	ASTM A484	12' - 14'	1259	5,700.000 LB

R031117 to R031221

**CHEMICAL ANALYSIS**

%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Cu	%Mo	%Co	%N2
0.0230	1.630	0.270	0.0250	0.0360	18.220	8.050	0.600	0.450	0.160	0.08300

**TEST RESULTS**

<b>0.2% yield strength ksi</b>	<b>Tensile Strength ksi</b>	<b>Elongation %</b>	<b>Reduction Of Area %</b>	<b>Hardness BHN</b>	<b>Grain Size NOS</b>
93.0	111.0	42.0	73.0	226.0	7.0

**SPECIFICATION:**

MATERIAL CONFIRMS TO DIN EN 10088-3:2005:WNR 1.4301/1.4307, EN 10222-5 AND EN 10272 COND-A & ASTM A182/A-182M-15, ASTM A276/A276M-16 COND A, A479/A479M-15 COND A, A193/A193M-12b B8 CL-1, A320/A320M-11a B8 CL-1, A484 16, A388/A388M-05, ASME SA182-14, SA479-11, SA 193-11 B8 CL-1, SA320-11 B8 CL-1, ASTM A314-2008. IGC SATISFACTORY AS PER ASTM A 262-10 PRACTICE E. AMS 5639H/AMS5647J (EXCEPT MARKING), QQ-S-763F, NACE MR0103-2012, NACE-MR0175/ISO-15156-2015, SAE-AMS-S-7720A, MIL-S-862-B, AISI 304/304L & UNS#S30400/S30403. CERTIFICATION AS PER EN 10204-3.1.

**REMARKS**

MATERIAL IS FREE FROM MERCURY CONTAMINATION, FREE FROM WELD OR WELD REPAIRS, MICRO:FREE FROM CONTINUOUS CARBIDE NETWORK ON GRAIN BOUNDARIES. MACRO:GOOD, MINIMUM SOLUTION ANNEALING TEMPERATURE 1050C, SOAKING TIME 1/2 HRS, WATER QUENCHED. MELT SOURCE:AOD. WE CONFIRM THAT THE MATERIAL HAS BEEN TESTED AND FOUND TO BE FREE FROM RADIOACTIVE CONTAMINATION.COUNTRY OF ORIGIN: INDIA.

We hereby certify that the material described above has been tested and complies with the terms of order/contract.

**WORKS INSPECTOR**  
K R K MURTHY

heat: 43806

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS ROUND BAR  
(NOTE: AISI 303 NOT ACCEPTABLE)

SPECIFICATION:

ASTM A276  
M304R/D.D.D.  
DIA.

PART NUMBER:

WHERE "D.D.D." = DIAMETER IN INCHES  
EG. 0.75" ROUND BAR = M304R0.750

RELEASED  
10/23/2015

B	REFORMAT DWG. ADD SPECS (2N D6 1), REF PAR 08-020A	CP	09 07 15
A	NEW ISSUE	AJS	08 03 03
REV.	DESCRIPTION	BY	DATE
DESIGN	SS		
DRAWN	SS		
CHECKED	SS		
MFG. APPR.	M304R		
APPROVED	SS		
DE APPR.	SS		
DATE	09.07.15		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		REV. B	
DRAWING NO.		SHEET 1 OF 1	
TITLE		SCALE	
304/316 ROUND BAR		NFS	
COPYRIGHT © 2006 BY DART AEROSPACE LTD			



## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304L0.375  
 DATE: 18/11/15

PO / BATCH NO.: P0041674/5127986

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 12.08L  
 QUANTITY INSPECTED: 12.08L  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.375"  
 THICKNESS RECEIVED: 0.375"  
 SHEET SIZE ORDERED: —  
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y	N	
CORROSION	Y	<input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y	N	ASTM A276
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y	N	
PHOTO REQUIRED	Y	<input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y	N	LT: 43806
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AK</u> DATE: <u>18/11/15</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



# ACIER OUELLETTE INC.

935, Boul. du Hâvre  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

# DELIVERY - CLIENT

Copy

CO00120068

## Billed to

DART AEROSPACE LTD

1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

## Instruction

F-M

## Shipped to

1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

Att: LUSSIER Tél.: (613) 632-5200 X 730

## Delivery Route

5

Customer N° CLI0001056

Date 2018/11/09

Delivery date 2018/11/15

Your order N° 041674

Processed by Josianne Bourdon

Salesman

Carrier OUELLETTE VALLEYFIELD

Credit Terme Net 30 Days

Product Description	Weight	Qty	UM	PCS NB			Internal Use Only			
				CMD	EXP	B/O	IN	I	S	C
1 ROUND 4140 HEAT TREAT 7/8 (R) R4140-78H 1 X 20' R/L TRANSIT ST-JEROME LE 14/11 Heat: M55997	40.90	20.00	PL_\$CLB		12 20					
2 ROUND 4140 ANNEALED 4 1/2 (R) R4140-412A 1 X 43" DC TRANSIT ST-JEROME LE 14/11 Heat: J8443	185.11	3.33	PL_\$CLB		1x 43					

## Note : ATTENTION: MILL TEST REQUIS

## Conditions :

All sold and delivered materials remain the property of "Acier Ouellette Inc." until payment is made in full, complete and cashed. All lost materials are at the buyer's expense. The warranty offered by "Acier Ouellette Inc." is the same as offered and honored by the manufacturer and his warranty is transferred by "Acier Ouellette Inc." to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with this document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% restocking charge.

Total Weight (Lbs) : 226.01

NIR : R-109516-6

Prepared By :

Am

Delivered By :

VA

Time

Y M D  
18 11 15

Customer's Signature

Date



R414-78

# Eaton Steel Bar Company Inspection Certificate 1696552

EN 10204:2004-3.1

Customer	BOL	Ship Date	Customer PO	Item	Customer Item	Item Description
	224436	30-Jan-2018	B39274	11141 rev 003	502241	78 HR RD 414042MM 20H2in SBQ QTSF FG MST

All bundles listed below were produced using steel from Heat M55997 issued by GERDAU-MONROE and were completed from Eaton Steel Job 808640.

Chemistry	Description	Value	Units	Mechanical	Description	Value	Units
C	Carbon	0.41000	PGMT	TENSILE PSI	Tensile Strength in PSI Units		PSI
Mn	Manganese	0.88000	PGMT	YIELD PSI	Yield Strength in PSI Units		PSI
P	Phosphorus	0.01900	PGMT	ELONGATION	Percent Elongation		PCT
S	Sulfur	0.01800	PGMT	REDUCTION	Percent Reduction in Area		PCT
Si	Silicon	0.26000	PGMT	BRINELL SURF	Brinell Surface	301.0	BHN
Ni	Nickel	0.13000	PGMT	Heat Treating	Description		
Cr	Chromium	0.98000	PGMT	TEMPER TEMP F	Temper Temp in Fahrenheit	500 - 2500	DEGF
Mo	Molybdenum	0.16000	PGMT	AUSTEN TEMP F	Austenitize Temp in Fahrenheit	1600 - 1700	DEGF
Al	Aluminum	0.01800	PGMT	SR TEMP F	Stress Relief Temp in Fahrenheit	500 - 2500	DEGF
Cu	Copper	0.22000	PGMT	MAGNETISM-HT	Magnetism in Gauss	0 - 20	GN
V	Vanadium	0.00300	PGMT	TIME AT TEMP	Time at Temperature	Report	
Co	Columbium	0.00300	PGMT	QUENCH MEDIA	Quench Media Requirements	P&W/O	
N	Nitrogen	0.00650	PGMT	STRESS FREE	Cert stress free	CERTIFIED	
P-S	Element Sum Limit	0.03700	PGMT	HT4140-42QT	Quench & Temper	CONFORMS	
DI	Ideal Diameter	5.26000	IN	Mill Processing	Description		
Cleanliness	Description	Value	Units	MELT COUNTRY	Melted in Country	USA	
MACRO ETCH	Report macro etch results.	Value	Units	ROLLED COUNTRY	Rolled in Country	USA	
GEOMETRY	Description	Value	Units	RED RATIO	Reduction Ratio	59.90	RED
DIAMETER	Diameter	0.8670 - 0.8830	IN	ASTM Standard	Description		
Geometry	Description	Value	Units	A193/193M-01	Grade B7	CONFORMS	
J1	1/16 inch from Quenched End	57	HRC	A334-90a-BC	ASTMA BC Tensile and Yield properties	CONFORMS	
J2	2/16 inch from Quenched End	57	HRC	Structure	Description		
J3	3/16 inch from Quenched End	57	HRC	PERCENT TM	Percent Tempered Martensite	80 - 100	PCT
J4	4/16 inch from Quenched End	57	HRC	MICROSTRUCTURE	Reported Microstructure	TM	
J5	5/16 inch from Quenched End	57	HRC	Tag Number	Qty Units	Length	
J6	6/16 inch from Quenched End	57	HRC	022-2188194	4025 LBS	20ft	
J7	7/16 inch from Quenched End	56	HRC				
J8	8/16 inch from Quenched End	55	HRC				
J9	9/16 inch from Quenched End	54	HRC				
J10	10/16 inch from Quenched End	52	HRC				
J11	11/16 inch from Quenched End	50	HRC				
J12	12/16 inch from Quenched End	48	HRC				
J14	14/16 inch from Quenched End	46	HRC				
J16	16/16 inch from Quenched End	45	HRC				
J18	18/16 inch from Quenched End	44	HRC				
J20	20/16 inch from Quenched End	42	HRC				
J22	22/16 inch from Quenched End	40	HRC				
J24	24/16 inch from Quenched End	38	HRC				
J26	26/16 inch from Quenched End		HRC				
J28	28/16 inch from Quenched End		HRC				
J32	32/16 inch from Quenched End		HRC				

Bundling tags with Eaton Steel identifies reference the steel grade, heat, purchase order number where applicable, part number, product description and quantity. Material produced in accordance with Eaton Steel's Quality Manual QM-00002 Rev 0 dated 11/21/2013.

We hereby certify the above to be in conformance, and a true copy of data represented in company records. This steel was not subject to weld repair or exposed to mercury while in the possession of Eaton Steel.

Created on 30-Jan-2018  
 Marc Benjamin, Corporate Metallurgist  
 10221 Capital Avenue, Oak Park, MI 48237 USA  
 Tel: 248-398-3434  
 Fax: 248-398-1434  
<http://www.eatonsteel.com>

This document was prepared by means of electronic data processing and is valid without signature.



GERDAU SPECIAL STEEL NORTH AMERICA  
5591 MORRILL ROAD  
JACKSON, MICHIGAN 49201

CERTIFIED MATERIAL TEST REPORT

CUSTOMER ORDER NUMBER	CUSTOMER PART NUMBER	HEAT NUMBER	WORK ORDER NUMBER	DATE
148088	1012470/4140EFVD	M55997	291125 101	8/11/14

Danieli Cast

REPORT TO  
DAN MCNAUGHTON  
EATON STEEL CORPORATION  
  
10221 CAPITAL  
  
OAK PARK , MI 48237

SHIP TO  
  
EATON STEEL CORPORATION %  
VULCAN HEAT TREATING  
10 CROSSCREEK TRAIL  
  
PELHAM , AL 35124

ORDERED

GRADE	SIZE	LENGTH
4140EFVD	0 7/8" RND	20' 2"

CUSTOMER SPECIFICATIONS  
ITEM 1012470 REV 1 DTD 3/7/12; A29/A29M-12; A322-07

CHEMICAL ANALYSIS

C	Mn	P	S	Si	Ni	Cr	Mo	Cu	Sn	Al
0.41	0.88	0.019	0.018	0.26	0.13	0.98	0.16	0.22	0.011	0.018
V	Nb	N								
0.003	0.003	0.0065								

GRAIN SIZE SPECIFICATION ASTM E112 FINE GRAIN 5-8

HARDENABILITY SPECIFICATION ASTM A255/A304

THEORETICAL

J1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	20	22	24	26	28	30	32	34
57	57	57	57	57	57	56	55	54	52		50		48		46	45	44		42		40		38	

DI CALCULATION SPECIFICATION CAT 1E0024

5.26


REDUCTION RATIO SPECIFICATION ITEM 1012470

RATIO= 59.9 TO 1.0

PAGE 1

We certify that these data are correct and in compliance with specified requirements.

Gerdau Monroe  
3000 East Front Street  
Monroe, MI 48161

  
Wendy J. Craig  
Quality Assurance Representative

CONTINUED ON PAGE 2





GERDAU SPECIAL STEEL NORTH AMERICA  
5591 MORRILL ROAD  
JACKSON, MICHIGAN 49201

CERTIFIED MATERIAL TEST REPORT

CUSTOMER ORDER NUMBER	CUSTOMER PART NUMBER	HEAT NUMBER	WORK ORDER NUMBER	DATE
148088	1012470/4140EFVD	M55997	291125 101	8/11/14

Danieli Cast

REPORT TO  
DAN MCNAUGHTON  
EATON STEEL CORPORATION  
  
10221 CAPITAL  
  
OAK PARK , MI 48237

SHIP TO  
  
EATON STEEL CORPORATION %  
VULCAN HEAT TREATING  
10 CROSSCREEK TRAIL  
  
PELHAM , AL 35124

ORDERED

GRADE	SIZE	LENGTH
4140EFVD	0 7/8" RND	20' 2"
CUSTOMER SPECIFICATIONS ITEM 1012470 REV 1 DTD 3/7/12; A29/A29M-12; A322-07		

RESIDUAL MAX SPECIFICATION ITEM 1012470

P+S = 0.0370

RESIDUAL MIN SPECIFICATION ITEM 1012470

P+S = 0.0370

ASTM E381 MACRO ETCH SATISFACTORY: S1/R1/C1

\*\* MATERIAL 100% MELTED AND MANUFACTURED IN THE U.S.A. BY THE ELECTRIC ARC FURNACE AND CONTINUOUS CASTING METHOD. THE PRODUCT HAS NOT BEEN REPAIRED BY WELDING AND THIS MATERIAL HAS NOT BEEN EXPOSED TO MERCURY OR TO ANY OTHER METAL ALLOY THAT IS LIQUID AT AMBIENT TEMPERATURES DURING PROCESSING OR WHILE IN OUR POSSESSION. GERDAU MONITORS ALL INCOMING SCRAP AND ALL HEATS OF STEEL TO ENSURE THAT PRODUCTS SHIPPED ARE FREE OF RADIOACTIVE MATERIAL.

PAGE 2 OF 2

We certify that these data are correct and in compliance with specified requirements.

Gerdau Monroe  
3000 East Front Street  
Monroe, MI 48161

  
Wendy J. Craig  
Quality Assurance Representative





Vulcan Threaded Products  
10 Cross Creek Trail  
Pelham, AL 35124  
Tel (205) 620-5100  
Fax (205) 620-5150

## JOB MATERIAL CERTIFICATION

Job No: 388939      Job Information      Certified Date: 10/21/14  
Containers: S8899057 S8900817 S8905945 S8908239  
Customer: Eaton Steel Corporation      Ship To: Drive  
20601 Trolley Industrial      Taylor, MI 48180  
Customer Part No: 1013442-001  
Customer PO No: 148089-765527      Shipped Qty: 30223 lbs  
Order No: 229406      Line No: 1

Note: **W6 765527**

### Applicable Specifications

Type	Specification	Rev	Amend	Option
Heat Treat	A434-90a-BC	2009		
	ASTM A193 B7/ASME SA193 B7	2010a		
	Customer Specification			

### Test Results

See following pages for tests

### Certified Chemical Analysis

Heat No: M55997										Origin: USA	
C	Mn	P	S	Si	Cr	Mo	Ni	V	Cu		
0.410	0.88	0.019	0.018	0.26	0.98	0.16	0.13	0.003	0.22		
Al	NB	Sn	N	PR	Macro S	Macro R	Macro C	DI			
0.018	0.003	0.011	0.0065	59.9:1	1	1	1	5.26			

### Notes

Material was manufactured, tested and inspected in accordance with Vulcan Threaded Products Inc. Quality Assurance Program and Manual Rev. A, dated 8/23/11. Processed material is Quenched and Tempered - Stress Free. No weld repair performed on the material. No Mercury used in the production of this material. Melted and Manufactured in the USA.

Average Gauss Reading: <15

The microstructure is greater than 80% martensite from surface to the center

Test specimens meet the ASTM A370-12a specifications

cert 388098



Vulcan Threaded Products  
10 Cross Creek Trail  
Pelham, AL 35124  
Tel (205) 620-5100  
Fax (205) 620-5150

## JOB MATERIAL CERTIFICATION

Job No: 388939      Job Information      Certified Date: 10/21/14  
Containers: S8899057 S8900817 S8905945 S8908239

### Test Results

Part No: HRB 4140 .875x240 Q&T ES

Test No: 30480 Test: Quench & Temper Physicals (KSI)

Description	Tensile (ksi)	Yield 0.2% Offset (ksi)	Elongation (%)	Elongation Gage Length	ROA (%)	Midradius Hardness	Surface Hardness	Center Hardness	Hardness Test Type	Note
	148.0	132.5	19.5	4D	55.0	31.7	32.2		HRC	

Test No: 30479 Test: Quench & Temper Information (Lbs)

Description	Tempering Temp (F)	Run Speed (F/min)	Quench Water Temp (F)	Note
Quench & Temper Information Results	1,304	39.50	81.1	

*Casie W. Nadeau*

Nadeau, Casie - Lab Secretary

10/21/14

Date

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-4140QT-R0.875

PO / BATCH NO.: P0041674/S128382

DATE: 18/11/15

MATERIAL CERT REC'D: Yes

THICKNESS ORDERED: 0.875"

QUANTITY RECEIVED: 204

THICKNESS RECEIVED: 0.875"

QUANTITY INSPECTED: 204

SHEET SIZE ORDERED: —

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y	N	
CORROSION	Y	<input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y	N	
CORRECT MATERIAL PER M-DRAWING	Y	N	<u>ASTM A193</u>
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y	N	
PHOTO REQUIRED	Y	<input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y	N	<u>LT: M55997</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u> DATE: <u>18/11/15</u>	SIGNED OFF BY: <u>[Signature]</u> DATE: <u>22 Nov 2018</u>

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



# CERTIFICATE OF COMPLIANCE / CERTIFICAT DE CONFORMITÉ

Order No. / No. Commande	CUSTOMER / CLIENT	Packing slip / No. d'expédition	DATE	
Order No. / No. Commande	CUSTOMER / CLIENT	Packing slip / No. d'expédition	DATE	
AC00013952	LES ACIERS OUELLETTE INC	L36715-01	06-03-18	
MATERIAL ID# / No. MATÉRIEL	GRADE / NUANCE	HEAT TREATMENT / TRAITEMENT THERMIQUE	HEAT / COULÉE	
2017-1882	AISI 4140	Q.T.S.R / TREMPÉ REVENU - RECUIT DE DÉTENTE (RONDS)	J8443	
SHAPE / FORME	SIZE / DIMENSION	SPECIFICATIONS		
Round / Rond	4.500" in.	ASTM A29-12,A370-14,A434 Class BD-06,A193B7-14		
PAYS D'ORIGINE:	FRANCE	IMPACT TEST -40°C: 35,4J / 35,2J / 38,6J -30°C: 44,6J / 44,2J / 41,2J		
CHEMICAL COMPOSITION / ANALYSE CHIMIQUE				
	Carbon (C)	Silicon (Si)	Manganese (Mn)	Phosphorus (P)
mini/maxi	0.380 0.430	0.150 0.350	0.750 1.000	0.035
actuel (%):	0.414	0.283	0.922	0.012
	Sulfur (S)	Chromium (Cr)	Nickel (Ni)	Molybdenum (Mo)
mini/maxi	0.040	0.800 1.100	0.000 0.250	0.150 0.250
actuel (%):	0.014	1.057	0.247	0.235
	Copper (Cu)	Vanadium (V)	Aluminium (Al)	Tungsten (T)
mini/maxi	0.350	---	---	---
actuel (%):	0.162	0.000	0.025	0.000
MECHANICAL PROPERTIES / PROPRIÉTÉS MÉCANIQUES				
Yield strength / Élasticité	Tensile / résistance à la traction	Elongation / allongement (%)	Reduction of area / surface (%)	Hd/dure surface
125,617	143,790	17.3%	54.0%	341 BHN

No weld repairs performed during the manufacturing of this product. We hereby certify that the above results have been verified and conform to the above mentioned specifications. Material is Mercury free, without radioactivity.

Aucune réparation exécutée par soudure durant la fabrication de ce produit. Par la présente nous attestons que les résultats ci-haut mentionnés ont été vérifiés et sont conformes aux spécifications. Pas de contact au Mercure, sans radioactivité.

Keith BALL - Branch Manager

R44 4/12

## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-4140QT-24.500

PO / BATCH NO.: P0041674/S128383

DATE: 18/11/15

MATERIAL CERT REC'D: Yes

THICKNESS ORDERED: 4.500"

QUANTITY RECEIVED: 3.58ft

THICKNESS RECEIVED: 4.500"

QUANTITY INSPECTED: 3.58ft

SHEET SIZE ORDERED: —

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/>	N	
CORROSION	Y	<input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/>	N	
CORRECT MATERIAL PER M-DRAWING	Y	N	ASTM A29
CORRECT THICKNESS	<input checked="" type="checkbox"/>	N	
PHOTO REQUIRED	Y	<input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/>	N	PH: J8443
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/>	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/>	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u>	SIGNED OFF BY: <u>[Signature]</u>
DATE: <u>18/11/15</u>	DATE: <u>22 Nov 2018</u>

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



TRA-2324

Heat: A1N050390

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS SHEET  
ANNEALED

SPECIFICATION:

MIL-S-5059  
OR AMS 5513 (304)  
OR AMS 5524 (316)  
OR ASTM A240  
OR ASME SA240

FINISH:

FINISH IDENTIFIER  
UNPOLISHED No. 1  
UNPOLISHED No. 2D  
UNPOLISHED No. 3  
POLISHED No. 4  
BUFFED No. 6  
BUFFED No. 7  
BUFFED No. 8

DART M-NUMBER IDENTIFIER  
1P  
2D  
3P  
4P  
6P  
7P  
8P

PART NUMBER:

M304S TT GA #P  
[GA]

WHERE "TT" = GAUGE THICKNESS  
WHERE "#P" = FINISH IDENTIFIER

EG. 16 GAUGE SS SHEET 2B FINISH = M304S16GA  
EG. 16 GAUGE SS SHEET No. 4 POLISHED = M304S16GA4P

GAUGE THICKNESS REFERENCE:

GAUGE	NOM THICK (IN)	THICKNESS RANGE (IN)
26	0.01875	0.0178 - 0.019
25	0.021875	0.0199 - 0.023
24	0.025	0.024 - 0.026
23	0.028125	0.027 - 0.029
22	0.03125	0.030 - 0.032
21	0.034375	0.033 - 0.035
20	0.0375	0.036 - 0.040
19	0.04375	0.041 - 0.046
18	0.050	0.047 - 0.052
17	0.05625	0.053 - 0.058
16	0.0625	0.059 - 0.065
15	0.0703125	0.066 - 0.072
14	0.078125	0.073 - 0.083
13	0.08375	0.084 - 0.088
12	0.109375	0.099 - 0.114
11	0.125	0.115 - 0.130
10	0.140625	0.131 - 0.145
9	0.15625	0.146 - 0.160
8	0.171875	0.161 - 0.176
7	0.1875	0.182 - 0.194
6	0.2031	0.194 - 0.212
5	0.2188	0.201 - 0.228
4	0.2344	0.225 - 0.243
3	0.2500	0.238 - 0.262
2	0.2656	0.254 - 0.278
1	0.2813	0.269 - 0.293
0	0.3125	0.301 - 0.325

RELEASED  
2015 FEB 04  
ECN 15-122 47

D	ADDED GAUGES 0-7	AJS	15.01.06
C	DEFINED FINISH OPTION (ZN CR AND EXAMPLE OF MATERIAL FIN WITH FINISH OTHER THAN 2B (ZN B5).	MB	17.09.20
B	REFORMAT DWG. ADD ASTM/ASME SPECS (ZN D8-1), ADD GAUGE REF (C8-1), REF PAR 08-020A	CP	09.06.01
A	NEW ISSUE	DS	01.09.24
REV	DESCRIPTION	BY	DATE
DESIGN	DS		
DRAWN	AJS		
CHECKED			
MFG APPR.			
APPROVED			
DE APPR.			
DATE	15.01.06		

DART AEROSPACE LTD	
HAWKESBURY, ONTARIO, CANADA	
DRAWING NO	M304S
TITLE	304/316 SS SHEET
REV D	SHEET 1 OF 1
SCALE	NTS
COPYRIGHT © 2001 BY DART AEROSPACE LTD	



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304S11GA  
 DATE: 10/11/15

PO / BATCH NO.: P0041674/5127981

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 325F  
 QUANTITY INSPECTED: 325F  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.125"  
 THICKNESS RECEIVED: 0.125"  
 SHEET SIZE ORDERED: 48"x84"  
 SHEET SIZE RECEIVED: 48"x84"

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORROSION	Y <input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	ASTM A240
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	MT-ATN050390
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u> DATE: <u>10/11/15</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in